

REMARKS

Claims 4 and 12-19 are pending in the application. Claims 14-17 are withdrawn from further consideration as being drawn to a non-elected invention.

Claim 18 is amended to recite the first step as bringing the hair in contact with a cosmetic hair-treatment agent comprising natural zein extract obtained from corn; and to recite the second step as leaving the hair in contact with said cosmetic hair-treatment agent for a time sufficient for and resulting in hardening, strengthening, restructuring, repairing or stabilizing or increasing luster, volume, or combability of hair. Support for the amendment to claim 18 may be found on page two of the specification, third full paragraph and last paragraph.

Examiner Interview

Applicant thanks Examiner Hasan S. Ahmed for extending the courtesy of conducting telephonic interviews with Applicant's representatives Michael J. Striker and Tomas Friend on 26 October 2009 regarding the Lendlein reference. Since the Lendlein international application was not published in English, the 371 filing date of the reference cannot be applied as the effective U.S. filing date and the Lendlein reference does not qualify as prior art.

Claims Rejections 35 U.S.C. 103

Claims 4, 12, 13, 18, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Quisling (US 2,383,990) in view of Rath (US 5,972,322). The Examiner's rejection has been carefully considered.

Quisling teaches the use of a composition containing 20% zein (last example on page 2) in a hair setting, waving, or curling solution. According to Quisling, zein is only used as a coating material, which would not be rinsed or washed from the hair and would not improve the condition of the hair.

The rejection asserts that improved setting, waving, and/or curling of hair taught by Quisling reads on the “restructuring” limitation recited in claim 18. Applicant respectfully disagrees. Reading Quisling in context, it is clear that zein protein is used to coat the hair in order to hold it in a specific shape to set, wave, or curl the hair. Quisling in no way implies that zein changes the structure of the hair, only the shape of it. The rejection equates the shaping of hair to the limitation “restructuring” hair recited in present claim 18. Applicant argues that one of ordinary skill reading present claim 18 would not confuse an agent for “restructuring” hair with the improved setting, waving, and/or curling agent taught by Quisling. Were there to be any doubt, page 3, second paragraph, in the present specification clearly equates restructuring of hair with the repair of keratin fibers.

Rath teaches a hair strengthening agent that can be added to a shampoo, conditioner, or hair styling system. The hair strengthening agent may contain 20-40 wt-% of plant protein (column 10, line 39-column 1, line 11), which may be corn gluten which, according to the present specification, contains 60% to 70% zein. Consequently, Rath discloses a composition for strengthening hair that contains 12% - 14% zein.

Claim 18, as amended, recites a method in which a cosmetic hair-treatment agent comprising from 0.01 to 10.0 percent by weight of unhydrolyzed natural zein extract is left in contact with the hair for a time sufficient for and resulting in hardening, strengthening, restructuring, repairing or stabilizing or increasing luster, volume, or combability of hair and then the cosmetic hair-treatment agent is rinsed or washed out of the hair.

I. Applicant argues that claim 18, as amended, is patentable over Quisling in view of Rath because the cited references, alone or in combination, do not teach or suggest a method in which a composition comprising from 0.01 to 10.0 percent by weight unhydrolized natural zein extract is contacted with hair to improve the hair's condition as recited in present claim 18.

The Quisling composition contains 20% zein protein but Quisling does not teach or suggest hardening, strengthening, restructuring, repairing or stabilizing, or increasing luster, volume, or combability of hair, as recited in claim 18, as amended. Quisling clearly teaches that his inventions are coating materials that form films on the surfaces of hair. One of ordinary skill in the art would not have had any reason to believe that the compositions taught by Quisling would penetrate the hair, which is a prerequisite to restructuring/repairing keratin fibers. Additionally, Quisling does not teach or suggest a composition containing

Rath does teach hair strengthening, but the composition taught by Rath contains gluten (which contains 60 % - 70 % zein) and not an unhydrolized natural zein extract. As indicated by the term "zein extract," the presently claimed method requires a composition containing an unhydrolized extract of zein in which zein has been separated from the other components of gluten. Zein extract is not the same as gluten containing zein protein because, a zein extract contains zein that has been separated from (extracted from) gluten.

The rejection asserts that it would have been prima facie case of obviousness exists where claimed ranges do not overlap but are close enough that one of skill in the art would have expected them to have the same properties. In this case, it would not have been obvious one of ordinary skill in the art that a composition containing 10% zein would have been sufficient to hold hair as well as a composition containing 20% zein. Rath teaches the use of corn gluten, not purified zein to strengthen hair so one of ordinary skill in the art would have been motivated by Rath to use gluten and not zein to strengthen hair.

II. Applicant argues that one of ordinary skill in the art would not have been motivated to combine the methods taught by the two cited references to arrive at the presently claimed invention.

Quisling teaches the use of zein in a coating agent to be left in the hair to provide hold and not to be rinsed out. Rath teaches a method of strengthening hair by applying a composition containing corn gluten to the hair and then rinsing the composition out of the hair. The rejection asserts that one would have been motivated to combine the teachings of the cited references because the resulting combination would have a pleasant odor and is less injurious to hair than previous formulations as explained by Quisling.

It appears that the rejection asserts that one would have modified the hair strengthening composition taught by Rath to use zein as taught by Quisling. There is, however, no teaching in Quisling that zein strengthens hair and there is no teaching in Rath that the zein component of corn gluten is responsible for strengthening properties of the Rath composition. Additionally, the suggested combination would not have made sense for several reasons.

First, The hair strengthening composition taught by Rath comprises 60 % to 80 % water and about 20 % to 40 % corn gluten (bottom of column 10 and top of column 11), while Quisling teaches zein compositions containing zein dissolved in, at a minimum, 70 % alcohol (bottom of page 2, right column, and left column on page 3). Consequently, the form in which zein is applied according to Quisling is incompatible with the form in which corn gluten, which is not equivalent to zein, is applied according to Rath.

Second, Rath teaches a shampoo that cleans and strengthens hair. Quisling teaches a composition containing zein that forms an insoluble coating on the hair and must be removed using organic solvents. The first column on the first page of Quisling, lines 31-42 are reproduced below:

specification. The coating materials of my invention are flexible, do not crack off or come off easily on friction, do not come off or become sticky when moist, and the solvents for the prolamines are pleasant smelling and relatively not inflammable. Easily procurable solvent substances for applying my plastic materials include the lower alcohols, such as methyl, ethyl, propyl, and butyl alcohols and the lower glycols or preferably aqueous solutions of these solvents. Solvents for removing the coating material of my invention include the aforementioned solvents.

Quisling teaches zein as a plastic coating to be applied to hair and to be washed out with organic solvent. Regarding the teaching in Quisling that zein is less injurious to hair than previous formulations, the relevant citation in Quisling, page 1, right column, lines 4-12, is reproduced below:

Another object of my invention is to provide a
5 prolamine surface coating for hair suitable for
serving as an improved setting, waving and/or
curling agent which shall possess the advantage
over the present substances used for that purpose
of being of pleasant odor and less injurious to
10 the hair. This would particularly pertain to the
prior highly ammoniacal alkaline solutions ap-
plied to hair before permanent waving.

It seems clear that Quisling does not teach that zein is less injurious to hair than the corn gluten in the shampoo taught by Rath. Rather, the plastic coatings for holding hair according to Quisling are less injurious to hair than highly ammoniacal alkaline solutions. Consequently, it does not seem reasonable that one reading Quisling and Rath would be motivated to make Rath's shampoo less injurious.

Finally, it is suggested that one would have been motivated to replace the corn gluten in Rath's shampoo with zein because Quisling teaches that zein has a pleasant odor (page 1, right column, line 9). The Quisling citation is reproduced below:

Another object of my invention is to provide a
5 prolamine surface coating for hair suitable for
serving as an improved setting, waving and/or
curling agent which shall possess the advantage
over the present substances used for that purpose
of being of pleasant odor and less injurious to
10 the hair. This would particularly pertain to the
prior highly ammoniacal alkaline solutions ap-
plied to hair before permanent waving.

Quisling teaches that the prolamine surface coating of his invention has a pleasant odor. There is no indication that zein provides a pleasant odor. Example 10 in Quisling contains perfumed ethyl alcohol, which is the most likely source for the pleasant odor of the Quisling compositions.

In summary, there would have been no motivation to combine the teachings of Quisling and Rath in the manner suggested in the rejection of claim 18.

In view of the foregoing arguments and the amendment to claim 18, Applicant respectfully requests that the rejection of claims 4, 12, 13, 18, and 19 under 35 U.S.C. 103(a) as being unpatentable over Quisling in view of Rath be withdrawn and that claims 4, 12, 13, 18, and 19 be allowed.

Conclusion

The application in its amended state is believed to be in condition for allowance. Action to this end is courteously solicited. Should the Examiner have any further comments or suggestions, the undersigned would very much welcome a telephone call in order to discuss appropriate claim language that will place the application into condition for allowance.

Respectfully Submitted,

A handwritten signature in black ink, appearing to read 'Michael J. Striker', with a long horizontal flourish extending to the right.

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